

~~specific arterial anatomy and physiology of the living subject;  
[and]~~

B1  
Cope  
SH1  
~~calculating a [cerebral] flow of the circulatory system  
of the living subject based upon the corrected model; and  
calculating a flow of the circulatory system based upon  
a selected [cerebral] blood flow perturbation.~~

[Amend claim 7 as follows:]

B2  
SH3  
7. (Once Amended) The method of modeling as in claim 6  
[wherein the step of processing pixel data of the general area of  
the corresponding vessel to locate a boundary area between the  
corresponding vessel and surrounding tissue] further [comprises]  
comprising tracing the boundary into adjacent areas in three-  
dimensional space to locate respective ends of the corresponding  
vessel.

[Amend claim 12 as follows:]

B3  
SH4  
12. (Once Amended) Apparatus for modeling [cerebral]  
circulation within a living subject, such apparatus comprising:  
a [cerebral circulation] pressure and flow model of an  
arterial circulatory system for living subjects in general;  
means for correcting the model of the circulatory  
system to substantially conform to [the overall cerebral  
physiology] a specific arterial anatomy and physiology of the  
living subject; [and]

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C4  
means for calculating a [cerebral] flow and pressure of  
the circulatory system of the living subject based upon the  
corrected model; and  
means for calculating a flow and pressure of the  
circulatory system based upon a selected [cerebral] blood flow  
perturbation.

Amend claim 18 as follows:

B4  
C4  
18. (Once Amended) The apparatus for modeling as in claim  
17 [wherein the means for processing pixel data of the general  
area of the corresponding vessel to locate a boundary area  
between the corresponding vessel and surrounding tissue] further  
[comprises] comprising means for tracing the boundary into  
adjacent areas in three-dimensional space to locate respective  
ends of the corresponding vessel.

Amend claim 23 as follows:

23. (Once Amended) Apparatus for modeling [cerebral]  
circulation in a living subject, such apparatus comprising:  
a [cerebral circulation] pressure and flow model of an  
arterial circulatory system for living subjects in general;  
a correction processor adapted to correct the model of  
the circulatory system to substantially conform to [the overall  
cerebral physiology] a specific arterial anatomy and physiology  
of the living subject; and

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B5  
Conl

a flow processor adapted to calculate a [cerebral] flow and pressure of the circulatory system of the living subject based upon the corrected model and a flow and pressure of the circulatory system based upon a selected [cerebral] flow perturbation.

[Amend claim 29 as follows:]

29. (Once Amended) A method of modeling a surgical alteration of [cerebral] circulation in a living human subject, such method comprising the steps of:

B6  
C11

developing a pressure and flow model of an arterial circulatory system for living subjects in general;

correcting the model of the circulatory system to substantially conform [to the cerebral physiology] to a specific arterial anatomy and physiology of the living subject;

perturbing the corrected model of the circulatory system; and

determining a set of flow and pressure changes occurring within the circulatory system as a result of the perturbation.

[Amend claim 35 as follows:]

B7  
C11

35. (Once Amended) The method of modeling as in claim 34 [wherein the step of processing pixel data of the general area of the corresponding vessel to locate a boundary area between the corresponding vessel and surrounding tissue] further [comprises] comprising tracing the boundary into adjacent areas in three-dimensional space to locate respective ends of the corresponding vessel.

Amend claim 40 as follows:

40. (Once Amended) Apparatus for modeling a surgical alteration of [cerebral] circulation in a living human subject, such apparatus comprising:

a [cerebral] pressure and flow model of an arterial circulatory system for living subjects in general;

means for correcting the model of the circulatory system to substantially conform to the [cerebral] physiology of the living subject;

means for perturbing the corrected model of the circulatory system; and

means for determining a set of flow and pressure changes occurring within the model of the circulatory system as a result of the perturbation.

Amend claim 45 as follows:

45. (Once Amended) The apparatus for modeling as in claim 44 [wherein the means for processing pixel data of the general area of the corresponding vessel to locate a boundary area between the corresponding vessel and surrounding tissue] further [comprises] comprising means for tracing the boundary into adjacent areas in three-dimensional space to locate respective ends of the corresponding vessel.

Amend claim 50 as follows:

50. (Once Amended) A method of modeling a surgical alteration of circulation in a predetermined [region] arterial circulatory system of a living human subject, such method comprising the steps of:

developing a pressure and flow model of the [region] arterial circulatory system for living subjects in general;